



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,595	09/26/2003	Vincent J. Tekippe	29165.00	8642
22465	7590	11/14/2005	EXAMINER	
PITTS AND BRITTIAN P C P O BOX 51295 KNOXVILLE, TN 37950-1295			PENG, CHARLIE YU	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

27

Office Action Summary	Application No. 10/672,595	Applicant(s) TEKIPPE, VINCENT J.	
	Examiner Charlie Peng	Art Unit 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 and 29-37 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-21 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8-12, 22-27 and 29-35 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7, 31, 36 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/09/2005</u> | 6) <input type="checkbox"/> Other: ____ |

Brian Healy
Brian Healy

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The preamble in claims 1 and 12 indicated an optical device having an optical element, yet none of the limitations in claims 1 and 12 refers to any optical device and/or optical element being present. Further definition such as "said first member also including the optical element" is suggested.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 9 depends upon above-rejected claim 1. Since the drawings are required to show every feature of the invention specified in the claims, the examiner interprets the claims in view of the drawings. The drawings show an optical element (collimator 108, actuator 106) being receiving by various housing (102 602) with apertures, so the first member must be the optical element and the second member must be the housing receiving the first member. Therefore, the applicant, in claim 9, contradicts claim 1 by designating the second member as the optical element. If it is the housing, then it cannot be the optical element at the same time. The examiner believes that the applicant is actually referring to an alternative embodiment as supported by lines 13-15 of [0029]: "In another embodiment, the housing 102 is a first member and

Art Unit: 2883

first member and the optical element 108 is a second member.” Under these circumstances, claim 9 should not be made a dependent claim of claim 1.

Objections to Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed second member in claim 9 must be shown or the feature(s) canceled from the claim(s). Claim 9 is a dependent claim of claim 1, therefore the limitation of *a collimator, an actuator, an attenuator, or an optical filter having a pair of openings diametrically opposed relative to said first member in said opening, each of said pair of openings having a passage from an outside surface of said second member to said aperture* must be shown in the drawings. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New

Art Unit: 2883

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 8-11, and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,757,471 to Jeong et al. in view of U.S. Patent 6,282,349 to Griffin. Jeong teaches an optical block assembly having a first optical member **F2/BF** and a second member for fixing and supporting the first optical member. (See at least **Fig. 7** and its descriptions) The second member includes a cover **C5** and a block **30** with V-grooved aperture **310** to receive the first optical member **F2/BF**. Jeong further teaches that the cover **C5** has two openings **506** formed thereon in parallel, symmetrically and diametrically (exactly opposite) with respect to the inserted first optical member **F2/BF** and the V-grooves **310**. (See at least **Fig. 5** and its descriptions) Jeong still further teaches that, while in use, an adhesive, epoxy-resin B, is filled in and hardened. Jeong does not teach the adhesive having a high viscosity so that it does not wick. Griffin teaches a method of using high viscosity adhesive to secure optical fibers inside ferrules so that the adhesive cures before it can wick. (See at least **column 2, paragraph 1**) It would have been obvious to one having ordinary

Art Unit: 2883

skill in the art at the time the invention was made to use a high viscosity adhesive in fixing the first optical member of Jeong. The motivation would be to prevent the adhesive from wicking to the end(s) of the block and contaminate the terminations of the first optical member. With reference to claim 3, since epoxy of amorphous silica is known to be an epoxy with high viscosity, (e.g. U.S. Patent 5,344,635) it would have been obvious to use it for the same motivation as well.

With specific reference to claim 22, as seen in Fig. 7, two surfaces (of the cover C5 and the support member) on which the two openings reside are substantially perpendicular to an end face of the fiber F2. Since the openings are substantially on diametrically opposite sides of the fiber F2, so are the two surfaces.

With specific reference to claims 5 and 24, Jeong and Griffin discloses the claimed invention except for a particle size of amorphous silica. Since the applicant has not disclosed that a size of less than or equal to 10 μ m solves any stated problem or is for any particular purposes, ([0034]) it would have been obvious to one having ordinary skill in the art to optimize the size of amorphous silica particles as needs arise. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955) The motivation would be to provide an epoxy resin composition excellent in confidence for reflow resistance at a high temperature and moldability, and to provide a semiconductor device sealed with the epoxy resin composition. (e.g. JP2002022563 to Oura et al.)

With specific reference to claim 9, the applicant is simply switching the labels "first member" and "second member" on separate parts of the optical device. This can

be rejected by designating part **F2/BF** of Jeong as the second member, and designating parts **C5** and **30** of Jeong as the first member.

With specific reference to claim 11, Jeong and Griffin does not teach the third member and the second aperture to receive the third member, however, the applicant is creating a duplication of what is described in claim 1 and Jeong discussed in related art that two sets of fibers (first and third members) can be connected via an optical-fiber block. (See at least Fig. 1 and its descriptions) It would have been obvious to one having ordinary skill in the art at the time the invention was made connect the first member (optical fiber) to the third member (optical fiber), since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co, v. Bemis Co.*, 193 USPQ 8. The motivation would be to create a WDM communication system able to transmit multiple wavelengths through a single fiber.

Claims 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeong et al. and Griffin. A method as claimed by the applicant for forming the optical device previously described closely adhered to the components previously rejected by Jeong and Griffin and the second member (bottom part 30 and cover C5) has a pair of openings on opposing sides of the first member (fiber F2), as stated in rejections to claim 1 above. Jeong and Griffin do not teach the adhesive being cured as a final step of the method, but curing epoxy adhesive is well known in the art as a critical step of securing optical fibers within optical devices such as connectors, and it would have been obvious to one having ordinary skill in the art at the time the invention was made

Art Unit: 2883

to include this step in a method of creating optical device. The support of this includes, for example, U.S. Patent 5,109,460 to Baek et al., where optical fibers are secured in V-grooves by epoxy. The motivation would be to harden the epoxy and limit unneeded movements of optical elements within the device.

Allowable Subject Matter

Claims 4, 6, 7, and 36 have allowable subject matter as indicated in the previous office action.

Claim 12 is objected to as containing allowable subject matter and would be allowable if it is rewritten or amended to overcome the rejection under 35 U.S.C. 112, Paragraph 2.

New claim 37 is objected to but allowable as a dependent claim of claim 12.

Claim 13 is allowed as indicated in the previous office action.

Claims 14-21 are also allowed by virtue of being dependent upon claim 13.

Response to Arguments

With reference to the 35 U.S.C. 112, second paragraph, rejection of claim 9, applicant's argument is not completely persuasive. Please see also 35 U.S.C. 112, second paragraph, rejection and Objections to Drawings above.

With reference to claims 1-3, 5, 8, 11, applicant's arguments filed on 26 August 2005 (Page 14) have been fully considered but they are not persuasive. The following is the examiner's response:

1. The applicant argues that Jeong's V-grooves are not apertures. The examiner respectfully disagrees with this interpretation of the Jeong reference. The examiner has

designated a fiber of the ribbon cable F2 as the first member; and a structure used to receive the first member F2 as the second member, which consists of both a bottom part 30 and a cover C5. The bottom part 30 and the cover C5 combine to form a plurality of through-holes/apertures with substantially triangular cross-sections, and the apertures allow ends of the fibers F2 to be surrounded within the second member.

2. The applicant argues that Jeong does not disclose an aperture receiving a first member. The examiner respectfully disagrees with this interpretation of the Jeong reference. The apertures, as defined in Response 1 above, clearly contain the fiber F2 within. As suggested in the Abstract, Jeong teaches (the second member has) "a first V-grooves with a constant width for receiving the bare fibers..."; and this was also observed by the applicant in that "Jeong discloses an optical element F2/BF surrounded by three surfaces..." (Page 16, paragraph 2)

3. The applicant argues that Jeong does not disclose two openings diametrically opposed to the first member. Referring to both points 3 and 4 raised by the applicant on Page 14, the examiner respectfully disagrees with this interpretation of the Jeong reference. As seen in Fig. 5 of the Jeong reference, the cover C5, has two opposite and symmetrical rectangular end faces. To clarify, each of the end faces in Jeong is defined on an open side by a dashed line (reference numeral 506). The open sides are enclosed by the bottom part 30 in full assembly. Whereas an aperture refers to something that is 3-dimensional, an opening can be 2-D. (For example, a *hole opening* refers an end/width of the hole where the hole can be accessed.) Since the two end faces are on opposite sides of the fiber's width (or across at least a diameter of the fiber

F2), the two end faces form, with the bottom part 30, two openings diametrically opposed to the first member (the fibers F2).

4. With reference to applicant's argument on claim 11 (Page 15), the examiner will more clearly address the rejection here. As stated in the rejection previously, the second member of Jeong can be applied to two ends of an optical circuit as shown in Fig. 1. Since the bottom part 30 and a cover C5 form a pair of openings (See Response 3), in the duplication as suggested, the bottom part and two covers (replacing C3 and C4 in prior art drawing) would form two pair of openings, and the two pairs of openings are also diametrically opposed to with respect to the third member (fiber F1). Further, it is readily apparent that the openings extend lengthwise in a direction parallel to all the fibers (See Fig. 7) and therefore having longitudinal axes parallel to a longitudinal axis of the third member.

In reference to claims 25 and 26, applicant's arguments filed on 26 August 2005 (Page 16) have been fully considered but they are not persuasive. The examiner adequately addressed the means in the rejection to claim 1. To clarify further, the applicant disclosed the means as "by the adhesive 302 in a slot 112 in the support member 102, with the adhesive contacting the optical element 108." ([0053]) Jeong's reference discloses the means as having an adhesive filling in the V-grooved slots in the support member (the second member), and the adhesive is in contact and substantially surrounds the optical element/fiber F2. Jeong's means are at least the equivalent to what is disclosed by the applicant.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 9 am - 6 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charlie Peng
November 8, 2005


Brian Healy
Primary Examiner